



ARGENTUM
EXPANDING SENIOR LIVING

Argentum Guidance for Infection Prevention and Control

November 2020

Argentum's Infection Prevention and Control (IPC) Guidance was published to provide information to prevent the spread of infectious diseases in communities. This guidance also identifies precautions that can be used to mitigate the spread of diseases based on the manner of transmission. A section highlighting planning for future pandemics is included as part of this document to assist in preparation for the eventuality of a future pandemic.

Ownership, application, accountability, consistency, and follow-up are key components of an effective and efficient IPC program. This guidance includes a recommendation that an individual be appointed to lead a community's IPC program, working with others as needed to ensure the success of this program.

The Argentum IPC Guidance may be reviewed and considered for application to community practices and for assisting to increase awareness of infection control and preparations for management of various infectious situations.

DISCLAIMER

The information provided herein has been compiled to assist with decision making on issues related to infection prevention and control in assisted living communities. Argentum, its executive staff, and consultants, have attempted to provide information as a service to the association's membership in a situation that is quickly evolving and about which so much is unknown. Therefore, Argentum can provide no assurances nor even make any representations about the reliability or accuracy of this information. Each assisted living company and each community must make decisions that each regards as in the best interests of the health and safety of residents and staff. Argentum specifically disclaims responsibility or liability for the information it is providing from any legal, regulatory, medical, or compliance point of view.

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I. GOALS FOR AN INFECTION PREVENTION AND CONTROL PROGRAM

Disease outbreaks are adverse events which can occur in any community or healthcare setting and pose a threat to resident safety and lives.

An IPC program reviews prevention and control practices for known pathogens and helps to preplan for unknown pathogens (such as COVID-19) by incorporating outbreak investigation steps utilized from prior outbreaks.

The IPC program would assist to identify problematic pathogens, helping to prevent and mitigate disease transmission by implementing identified infection prevention and control measures. As an element of the program, evaluating trends through performance improvement may also reduce risks of future events.

Goals for an IPC Program would include:

- Providing a sanitary and comfortable environment, to help prevent the development and transmission of communicable disease and infections
- Providing education to residents, healthcare workers, visitors, and others in environment
- Assisting to prioritize, obtain, and steward resources

These goals for IPC have been adapted from a webinar presented by [Willis Towers Watson](#), Infection Control and Pandemic Preparedness (July 29, 2020)*.

* Original Source: Friedman, C., (2015) Chapter 1, APIC Guide Online.

II. LEADERSHIP/OWNERSHIP OF THE INFECTION PREVENTION AND CONTROL PROGRAM

Understanding the elements of infection prevention and how they apply to a community setting and federal and state regulations are recommended first steps. Consider designating an IPC leader – one who has the education and training to provide oversight and direct the IPC program. This leader serves as the champion for the program and is responsible for initiating and collaborating with others to facilitate the IPC program. Also consider having a designated back-up for your leader.

Note: An additional resource to further infection prevention and control knowledge can be found at the [CDC website for Nursing Homes and Assisted Living \(Long-term Care Facilities \[LTCFs\]\): Infection Prevention Training.](#)

An Infection Prevention and Control program may cover several topics:

Prevention:

- Reviewing required and seasonal immunizations/ vaccinations needed by residents and staff and ensuring they are up to date
- Handwashing/use of hand sanitizer
- Personal protective equipment use and inventory
- Respiratory/Cough etiquette
- Infectious disease types, identification, symptoms, treatment, and prevention training for staff

Isolation and cohorting residents:

- Room placement
- Separate PPE

Bloodborne pathogens:

- Blood glucose monitoring and insulin
- Blood spill kits

Sharps Safety:

- Needlestick safety for staff

Biohazardous waste and disposal:

- Contract

Cleaning and Disinfection:

- Resident rooms and common areas
- Review of chemicals utilized and for what purpose in the community; utilizing labels and MSDS sheets

Contact Tracing:

- Screening
- Case investigation
- Contact Support
- Self-quarantine

Surveillance, Investigation, Data Collection, IPC Trend Reviews of:

- Case demographics, location, signs & symptoms, diagnostics, and outcomes

Resident Compassion:

- Help residents to cope and take back control during an outbreak

Staff & Visitors:

- Support staff and visitors to the community. They too are experiencing stress from the sudden change and demands needed.

Telehealth:

- Technology use and benefits

Emerging Pathogens:

- Steps to prepare, supplies, contracts, etc.

III. RESIDENT HEALTH

Encourage residents to have all appropriate vaccinations.

IV. EMPLOYEE HEALTH

Test all employees for infectious diseases in accordance with state regulations and licensing agencies (where applicable) to minimize and prevent the spread of infectious diseases.

Health screenings can also be a useful tool in the identification of symptoms.

Having a practice of encouraging employees to stay home when they are not feeling well can limit the spread.

It is important to encourage employee participation in annual flu vaccinations to keep themselves, their families, and the residents they care for as healthy as possible.

V. EMPLOYEE PRACTICES – PREVENTION AND CONTROL OF INFECTIOUS DISEASES

Train employees in infection prevention and control approaches that will assist them in performing their job duties. Monitor and manage employees for compliance with infection control and prevention policies and procedures.

A. STANDARD AND TRANSMISSION BASED PRECAUTIONS

Germs are a part of everyday life and are found in air, soil, water, and in and on our bodies. Some germs are helpful, and others are harmful. Many germs live in and on our bodies without causing harm, and some even help us to stay healthy. Only a small portion of germs are known to cause infection.

However, these germs can have devastating effects to our senior living population. Standard and Transmission-based precautions defend against the spread of infections in communities.

Infections can be spread by:

- Contact: spread by touch or through contact
- Airborne: spread by micro particles that can stay airborne for longer periods of time
- Droplet: spread by heavier droplets

Note: Size of particles and distance between the infected and affected person are the main differences between airborne and droplet transmission.

Standard Precautions are the minimum infection prevention practices that apply to all resident services staff regardless of suspected or confirmed infection status of a resident. The components of Standard Precautions are aimed at breaking the cycle of infection by interrupting the method in which transmission occurs.

Transmission-based Precautions are the second tier of basic infection control and are to be used in addition to Standard Precautions for patients who may be infected or colonized with certain infectious agents for which additional precautions are needed to prevent infection transmission.

Note: To determine the correct PPE needed, perform a risk assessment of the pathogen found.

For an example about pathogen risk assessment, visit the CDC website [Influenza Risk Assessment Tool](#).

For more information about PPE selection, visit the CDC website to review the document [Guidance for the Selection and Use of Personal Protective Equipment \(PPE\) in Healthcare Settings](#).

Note: PPE selection choices can vary due to availability from suppliers and materials used. For example, KN95 respirators were initially listed as approved and later pulled due to poor quality. Contact your local health department or regulatory authority to discuss alternatives.

1. HAND HYGIENE

Hand hygiene has been accepted as the single most important measure to prevent transmission of infection and is the cornerstone of most infection prevention and control programs.

All staff, family members, and other visitors, should practice hand hygiene to stay healthy. Washing hands often, especially during these key times, will help prevent the spread of germs:

- **Before, during, and after** preparing food
- **Before** eating food
- **Before** and **after** providing care, treatments, medications, and any other care of residents
- **After** using the toilet
- **After** changing adult briefs or assisting a resident who has used the toilet
- **After** blowing your nose, coughing, or sneezing
- **After** touching garbage
- **Before and after** (donning/doffing gloves): prior to medication and before going to assist the next resident
- **After** performing cleaning tasks such as cleaning of a surface, a piece of equipment, or device
- **After** handling contaminated items like laundry or dirty dishes
- **After** removing gloves between resident contacts

For memory care residents, follow all of the above and frequently wash hands as part of a routine activity.

- After you have been in a public place and touched an item or surface that may be frequently touched by other people, such as door handles, elevator buttons, and handrails in the community.
- After traveling to and from work due to contact with sources that may spread disease, including gas pumps, shopping carts, electronic cashier registers/screens, etc.
- Before touching your eyes, nose, or mouth – the primary sources of entry into the human body for infectious diseases.

Handwashing Technique Reminder

Washing your hands is easy, and it's one of the most effective ways to prevent illness caused by a virus or bacteria. Clean hands can stop germs from spreading from one person to another and throughout an entire community.

Note: Antimicrobial soap is a soap that contains an antiseptic agent. Antiseptic agents are antimicrobial substances that are applied to the skin to reduce the number of microbial flora. Examples include alcohols, chlorhexidine, chlorine, hexachlorophene, iodine, chloroxylenol (PCMX), quaternary ammonium compounds, and triclosan.

When washing hands, follow these five steps every time:

- **Wet** your hands with clean, running water (warm or cold), turn off the faucet and apply soap.
- **Lather** your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, tips of fingers and under your nails.
- **Scrub** your hands for at least 20 seconds. (20 seconds = Humming the “Happy Birthday” song from beginning to end twice).
- **Rinse** your hands well under clean, running water – turn off the faucet with a dry paper towel.
- **Dry** your hands completely using a disposable paper towel.

Hand Sanitizer

Washing hands with soap and water is the best way to get rid of germs in most situations. If soap and water are not readily available, you can use an alcohol-based hand sanitizer that contains at least 60% alcohol. Read the label to verify the sanitizer is at least 60% alcohol.

Note: Hand sanitizers are flammable and need to be placed and stored properly.

Sanitizers can quickly reduce the number of germs on hands in many situations. However:

- Sanitizers do not get rid of all types of germs
- Hand sanitizers may not be as effective when hands are visibly dirty or greasy
- Hand sanitizers might not remove harmful chemicals from hands like pesticides and heavy metals

How to use hand sanitizer

It is important to read and follow the product manufacturer's instructions before using hand sanitizer. In general:

- Apply the gel product to the palm of one hand,
- Rub your hands together and the gel over all the surfaces of your hands and fingers until your hands are dry. This should take around 20 seconds.

Note: Consider your company's policies regarding employee nail length, artificial nails, jewelry, etc., that may offer opportunities for germs to hide.

2. PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE protects you and protects residents from the spread of germs.

The selection of PPE should be based on the infectious illness and other CDC, state regulatory or department of health guidelines and based on the tasks being performed and anticipated level of exposure the employee expects to encounter. Components of PPE can be used alone or in combination to provide the desired level of protection.

Note: The below provides a description of each type of PPE. The process to follow would be to gather PPE, use hand sanitizer, put on the gown, then the mask, then the face shield, and then gloves.

Putting on PPE – Staff:

- **Gown – Put on the isolation gown.** Tie all the ties on the gown. Assistance may be needed by other healthcare personnel.
- **Respirators, surgical masks, and face coverings**
A respirator is a device designed to help provide the wearer with respiratory protection against inhalation of a hazardous atmosphere. For bioaerosols, particulate-removing respirators are often recommended to help reduce exposure.
Use a National Institute for Occupational Safety and Health (NIOSH)-approved N95 filtering facepiece respirator or higher (use a surgical mask if a respirator is not available). Be sure to undergo initial and periodic fit testing in accordance with regulatory requirements.
The respirator has a nosepiece; it should be fitted to the nose with both hands, not bent or tented. Do not pinch the nosepiece with one hand. Respirator/surgical mask should be extended under chin. Both your mouth and nose should be protected. Do not wear respirator/facemask under your chin or store in a pocket between residents.
The respirator straps should be placed on crown of head (top strap) and base of neck (bottom strap). Perform a user seal check each time you put on the respirator.

Note: The following YouTube videos may be helpful in assisting staff with donning and doffing PPE.

[Donning & Doffing PPE: NCLEX Review](#) (nine minutes)

[PPE Donning and Doffing: CDC Sequence for COVID 19](#) (13 minutes)

Also see CDC NIOSH fit testing in Resources Section at the back of this document.

The surgical mask ties should be secured on crown of head (top tie) and base of neck (bottom tie). If mask has loops, hook them appropriately around your ears.

- **Face shield or goggles:** Should be worn when staff anticipate participating in a procedure that has the potential to generate splashes or sprays of blood, body fluids, secretions, or excretions.

When wearing an N95 respirator or half facepiece elastomeric respirator, select the proper eye protection to ensure that the respirator does not interfere with the correct positioning of the eye protection, and the eye protection does not affect the fit or seal of the respirator. Face shields provide full face coverage. Goggles also provide excellent protection for eyes, but fogging is common.

Personal eyeglasses or contact lenses do not provide adequate protection and are not considered acceptable eye protection. The use of face shields allows the healthcare provider to wear their own personal eyeglasses and increase protection to other areas of the face, including the eyes.

- **Gloves:** Gloves should cover the cuff (wrist) of gown.

Taking off PPE:

- **Gloves:** Ensure glove removal does not cause additional contamination of hands. Gloves can be removed using more than one technique (e.g., glove-in-glove).
- **Gown:** Untie all ties (or unsnap all buttons). Some gown ties can be broken rather than untied. Do so in gentle manner, avoiding a forceful movement. Reach up to the shoulders and carefully pull gown down and away from the body. Rolling the gown down is an acceptable approach. Disposable gowns are placed in the trash bin. Washable gowns are placed in the designated bin.
- **Perform Hand Hygiene before proceeding.**
- **Remove face shield, remove respirator (or surgical mask if used instead of respirator).** Do not touch the front of the respirator or mask.
- **Respirator:** Remove the bottom strap by touching only the strap and bring it carefully over the head. Grasp the top strap and bring it carefully over the head, and then pull the respirator away from the face without touching the front of the respirator.
- **Surgical mask:** Carefully untie (or unhook from the ears) and pull away from face without touching the front.
- **Remove face shield or goggles.** Carefully remove face shield or goggles by grabbing the strap and pulling upwards and away from head. Do not touch the front of face shield or goggles.
- **Perform Hand Hygiene again.**

Please see reuse/decontamination link in resource section for options when PPE is not available.

3. RESPIRATORY HYGIENE/COUGH ETIQUETTE

Prevent the transmission of all respiratory infections in senior living, including influenza, with the following infection control measures implemented at the first point of contact with a potentially infected person.

The five important elements to a respiratory hygiene program include:

- Education for Residents, Staff and Visitors on the signs and symptoms of respiratory illness.
- Posted signs in highly traveled areas of the community with instructions for prevention of transmission of respiratory illness.
- Easily accessible tissues, masks/face coverings to enable residents and visitors to cover sneezes and coughs.
- Convenient locations and frequent availability of hand hygiene supplies including the front entrance and communal areas.
- Encourage distancing between residents and visitors who have respiratory symptoms.

Note: Contact the local health department/state regulatory authorities for guidance on distancing and respiratory illnesses.

An example of the appropriate steps to follow for coughing or sneezing would be:

- Cover your mouth and nose with a tissue when coughing or sneezing. Or, use the bend in your elbow to stop the spread of airborne droplets.
- Use the nearest waste receptacle to dispose of the tissue after use.
- Perform hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials.

4. SHARPS

Note: A licensed nurse may give injections or resident may self-inject per their assessment(s).

All licensed nurses and residents who self-inject should be trained on sharps safety protocols.

It is recommended to eliminate or reduce the use of needles and other sharps in the community to use devices with safety features. Needle sticks can occur when needles are discarded by residents who self-administer by leaving the used needle in areas such as:

- Laundry
- Mattresses
- Trays, tables, and other surfaces

If a needle is found and before touching the needle:

- Make sure room has adequate lighting to see the needle and its' true location
- If this task is something you are not comfortable doing, go get help – otherwise proceed
- Don gloves
- Locate the nearest sharps disposal container in the room or community
- Do not try to recap the needle
- Do not hand pass exposed sharps from one person to another
- Keep sharps pointed away from yourself and other employees/residents
- Deposit in sharps needle disposal container
- Remove gloves, practice hand hygiene
- Report this incident to the licensed nurse. Resident education may be needed or reassessment.

5. SAFE INJECTION/LANCET PROCESSES

Blood Glucose Monitoring & Insulin

The following infection control recommendations should be followed by staff performing or assisting with blood glucose monitoring and/or insulin administration.

Note: Please refer to your state regulations to determine if these services can be performed or assisted by staff.

Fingerstick Devices Processes

Fingerstick devices, also called lancets, are used to prick the skin and obtain drops of blood for testing. Use those that are disposable and for single-use.

Single-use lancets permanently retract upon puncture. This adds an extra layer of safety for the resident and the provider.

Dispose of used lancets at the point of use in an approved sharps container. Never reuse lancets.

Reusable Devices: These devices often resemble a pen and have the means to remove and replace the lancet after each use, allowing the device to be used more than once. Follow the manufacturers guidance and state regulations for directions and use.

Single-use, auto-disabling fingerstick devices: These are devices that are disposable and prevent reuse through an auto-disabling feature. In settings where assisted monitoring of blood glucose is performed, single-use, auto-disabling fingerstick devices should be used.

Blood glucose meters are devices that measure blood glucose levels. Whenever possible, blood glucose meters should be assigned to an individual person and not be shared. Refer to state regulations for guidance regarding individual vs. shared devices.

If blood glucose meters must be shared, the device should be cleaned and disinfected after every use, per the manufacturer's instructions, to prevent carry-over of blood and infectious agents. If the manufacturer does not specify how the device should be cleaned and disinfected, then it should not be shared.

Perform Hand Hygiene prior to Administration (Hand washing with soap and water or use of an alcohol-based hand rub).

- Wear gloves during blood glucose monitoring and during any other procedure that involves potential exposure to blood or body fluids.
- Change gloves between resident contacts. Change gloves that have touched potentially blood-contaminated objects or fingerstick wounds before touching clean surfaces. Discard gloves in appropriate receptacles.
- Perform hand hygiene immediately after removal of gloves and before touching other medical supplies intended for use on other persons.

Insulin Administration

Insulin administration should only be performed by residents who are able to self-administer medications, or a licensed nurse. Insulin administration processes follows state regulations.

- Insulin pens should be assigned to individual persons and labeled appropriately: name/date started. They should never be used for more than one person.
- Multiple-dose vials of insulin are utilized in accordance with pharmacy protocols.
 - If the vial must be used for more than one person, it should be stored and prepared in a dedicated medication preparation area outside of the patient care environment and away from potentially contaminated equipment.
 - Medication vials should always be entered with a new needle and new syringe.

Dispose of used injection equipment at point of use in an approved sharps container. Never reuse needles or syringes.

Training and Oversight

- Review regularly individual schedules for persons requiring assistance with blood glucose monitoring and/or insulin administration.
- Provide a full hepatitis B vaccination series to all previously unvaccinated staff persons whose activities involve contact with blood or body fluids.
- Establish responsibility for oversight of infection control activities. Provide staff members who assume responsibilities for finger sticks and injections with infection control training.
- Assess adherence to infection control recommendations for blood glucose monitoring and insulin administration by periodically observing staff who perform or assist with these procedures and tracking use of supplies.
- Report to local health authorities any suspected instances of a newly acquired bloodborne infection, such as hepatitis B, in a resident or staff member.

Blood Spill Kits

- Blood spill kits should be available to staff in the event of a nosebleed, accident, or other emergency involving a blood spill.

6. DISPOSAL OF BIOHAZARDOUS MATERIALS

Have a contract in place with a biohazardous material approved company that will supply puncture-resistant sharps containers and "red bag" waste for safe disposal of materials identified to be biohazard.

7. CLEANING AND DISINFECTION

Clean and disinfect all surfaces, equipment, and devices in resident care areas as an integral part of standard precautions. Equipment can include medical as well as computers and keyboards in the community. These are important steps to prevent the flow of infectious organisms transmitted through the community.

Develop/review your current policies, procedures, and plans for cleaning and disinfection of high-touch areas as well as routine cleaning such as floors, walls, etc., and the PPE required to perform disinfection.

Include:

- **Determine what needs to be cleaned.** Areas unoccupied for seven (7) or more days need only routine cleaning. Clean resident rooms, common areas, resident equipment, computers, phones, etc., throughout the community. This includes the existing cleaning practices for outdoor areas.

- **Determine how areas will be disinfected.** Consider the type of surface and how often the surface is touched. Prioritize disinfecting frequently touched surfaces.
- **Consider the resources and equipment needed.** Keep in mind the availability of cleaning products and personal protective equipment (PPE) appropriate for cleaners and disinfectants. Review the material safety data sheet (MSDS) for effectiveness of disinfection.
- **Allow required wet time.** Some chemicals require time once being sprayed to allow for maximum effectiveness. Wait the time needed prior to wiping or allow to dry as directed by the material safety data sheet (MSDS).

Implement:

- **Clean visibly dirty surfaces** with soap and water prior to disinfection.
- **Use the appropriate cleaning or disinfectant product.** Use an EPA-approved disinfectant and review the Material Safety Data Sheet (MSDS) and product label to evaluate whether this is the correct chemical to meet your needs, and level of effectiveness. If an EPA-approved disinfectant approved for use against COVID-19 is not available, use a disinfectant that has been approved by EPA for use in disinfecting emerging pathogens.
- **Always follow the directions on the label.** The label will include safety information and application instructions. Keep disinfectants locked in a secured area when not in use.
- **Consider time needed** to remain wet (before it is wiped) to effectively kill pathogen before wiping.
- **Consider odor** of the cleaning chemical and coordination of mealtimes and/or other resident activities.

Maintain and revise:

- **Continue routine cleaning and disinfection.** Continue or revise your plan based upon appropriate disinfectant and PPE availability. Staff should wear gloves when cleaning and disinfecting contaminated or visibly soiled areas. Dirty surfaces should be cleaned with soap and water prior to disinfection. Routinely disinfect frequently touched surfaces at least daily. Staff should perform hand hygiene immediately after removal of gloves.
- **Maintain safe practices** such as frequent handwashing, using cloth face coverings, and staying home if you are sick.
- **Continue practices that reduce the potential for exposure.** Maintain social distancing, staying six feet away from others. Reduce sharing of common spaces and frequently touched objects.

Document areas cleaned and disinfected. (If no current documentation process exists, please see Forms section at the back of this document.)

Note: Soiled linens should be handled utilizing a method that prevents microorganisms from being transmitted to other people and the environment.

B. EDUCATION, TRAINING & DEFINITIONS REVIEW (SEE APPENDIX)

Informational Review of Types, Symptoms, Origins, Treatments and Prevention Strategies of Infectious Diseases and Pandemic Viruses

Standard Precautions apply for every situation every day to mitigate the spread of infection. In addition to standard precautions, there may be other transmission-based precautions—droplet, contact, and airborne—that will need to be used for specific infections.

Note: Please confirm disease reporting requirements with your local health department.

1. INFLUENZA (FLU)

Seasonal influenza viruses are influenza A and B viruses that spread and cause illness in people during the time of year known as the “flu season.” Seasonal influenza viruses cause annual influenza [epidemics](#) during fall, winter, and spring, and circulate among people worldwide. Seasonal influenza A and B viruses are continually undergoing evolution in unpredictable ways.

Note: Per the CDC release [“Seasonal flu death estimate increases worldwide” \(December 2017\)](#), estimates show between 291,000 and 646,000 people worldwide die from seasonal influenza-related respiratory illnesses each year, higher than a previous estimate of 250,000 to 500,000 and based on a robust, multinational survey.

Flu can cause mild to severe illness, and at times can lead to death. Flu is different from a cold. Flu usually comes on suddenly. People who have flu often feel some or all of the following symptoms:

Symptoms:

- Fever or feeling feverish/chills
- Cough
- Sore throat
- Runny or stuffy nose
- Muscle or body aches

- Headaches
- Fatigue (tiredness)
- Some people may have vomiting and diarrhea, though this is more common in children than adults.

Note: Not everyone with flu will have a fever and other warning signs.

Warning signs may include:

- Difficulty breathing or shortness of breath
- Persistent pain or pressure in the chest or abdomen
- Persistent dizziness, confusion, inability to arouse
- Seizures
- Not urinating
- Severe muscle pain
- Severe weakness or unsteadiness
- Fever or cough that improve but then return or worsen
- Worsening of chronic medical conditions

Treatment: The healthcare provider may prescribe medications such as over the counter products or Antivirals. Antiviral drugs are prescription medicines (pills, liquid, an inhaled powder, or an intravenous solution) that fight against flu viruses in your body. Antiviral drugs are not sold over-the-counter. You can get them only if you have a prescription from a healthcare provider.

Antiviral drugs are different from antibiotics, which fight against bacterial infections.

Prevention: Adhere to airborne and standard precautions protocols.

Contact the local health department per state guidelines.

Perform Contact Tracing: Utilize your contact tracing protocols. (For more information, see Section D – Contact Tracing.)

2. PNEUMONIA

Pneumonia is an infection of the lungs that can cause mild to severe illness in people of all ages.

Viruses, bacteria, and fungi can all cause pneumonia. Common causes of viral pneumonia are influenza and respiratory syncytial virus (RSV). A common cause of bacterial pneumonia is *Streptococcus pneumoniae* (pneumococcus). *Staphylococcus aureus* is the most common cause of bacterial coinfection, in particular pneumonia, closely followed by *Streptococcus pneumoniae* and *Streptococcus pyogenes*.

Understanding in what type of setting the pneumonia was contracted can determine how the pneumonia will be medically treated. These are referred to as:

- **Community-acquired pneumonia** is when someone develops pneumonia in the community (not in a senior living community).
- **Healthcare-associated pneumonia** is when someone develops pneumonia during or following a stay in a healthcare facility. Healthcare facilities include hospitals, long-term care facilities, senior living communities, and dialysis centers.

Note: Pneumonia developed as a result of contracting influenza is usually bilateral and unassociated with isolation of typical bacterial pathogens, although influenza virus may be isolated from sputum. The mortality can be high, and treatment with antiviral medications (discussed later in this chapter) is appropriate. Pneumonia is more common in older adults with comorbidities. Residents with pneumonia are symptomatic longer than residents without pneumonia.

- **Ventilator-associated pneumonia** is when someone gets pneumonia after being on a ventilator, a machine that supports breathing. The bacteria and viruses that most commonly cause pneumonia outside of the healthcare setting are different from those in healthcare settings.

Treatment: Treatment of pneumonia is based on selecting medication(s) effective against the major treatable bacterial causes.

Contact the local health department per state guidelines.

Prevention: There are two vaccines that help prevent pneumococcal disease among adults 65 years or older. Both vaccines are safe and effective, but they cannot be given at the same time.

- **Pneumococcal polysaccharide vaccine (PPSV23).**
- **Pneumococcal conjugate vaccine (PCV13).**

These vaccines are safe, but side effects can occur. Most side effects are mild and go away on their own within a few days.

Adhere to Standard and Airborne precautions.

3. CORONAVIRUSES

Coronaviruses are named for the crown-like spikes on their surface. There are four main sub-groupings of coronaviruses, known as alpha, beta, gamma, and delta.

Human coronaviruses were first identified in the mid-1960s. The seven coronaviruses that can infect people are:

- 229E (alpha coronavirus)
- NL63 (alpha coronavirus)
- OC43 (beta coronavirus)
- HKU1 (beta coronavirus)
- MERS-CoV (the beta coronavirus that causes Middle East Respiratory Syndrome, or MERS)
- SARS-CoV (the beta coronavirus that causes Severe Acute Respiratory Syndrome, or SARS)
- SARS-CoV-2 (the novel coronavirus that causes coronavirus disease 2019, or **COVID-19**)

COVID-19 is thought to spread mainly from person to person when people are in close contact with one another (within about 6 feet). The transmission occurs primarily through respiratory droplets produced when an infected person coughs, sneezes, or talks. These droplets can land in the mouths, noses, and/or eyes of people who are nearby, or can be inhaled into the lungs.

An infected resident or staff member with COVID-19 may not show any symptoms. The virus that causes COVID-19 spreads very easily and sustainably between individuals. In general, the more closely an infected person interacts with others and the longer that interaction, the higher the risk that COVID-19 will spread.

It may also be possible that the virus may be spread in other ways, such as by touching a surface or object that has the virus on it and then touching your own mouth, nose, or possibly eyes.

Older adults and people who have severe underlying medical conditions, like heart or lung disease, or diabetes, seem to be at higher risk for developing more serious complications from COVID-19 illness.

Symptoms reported can have a wide range from mild symptoms to severe illness. Symptoms may appear 2-14 days (incubation period) after exposure to the virus. These can include:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches

- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

This list does not include all possible symptoms. It is important to refer to CDC, as it continues to provide updates as more is learned about COVID-19.

Among adults, the risk for severe illness from COVID-19 increases with age, with older adults at highest risk. Severe illness means that the person with COVID-19 may require hospitalization, intensive care, or a ventilator to help them breathe, or they may even die.

Not everyone will need hospitalization. But some will, and it is important to know the emergency warning signs and immediately call 911. These signs can include:

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Bluish lips or face

Any change in condition should be discussed with the physician, resident, and legal responsible party.

Testing is an element of COVID-19 prevention and mitigation. It is recommended to collaborate with state and local departments of health to coordinate a surveillance and prevalence testing strategy for residents and team members, and work with the residents' physician for testing based upon presence of symptoms.

Tests types:

- A PCR test detects genetic material of the virus. This lab technique is called a polymerase chain reaction (PCR). Fluids are collected from a nasal or throat swab, or from saliva.
- An antigen test detects certain proteins in the virus. Using a nasal or throat swab to get a fluid sample, antigen tests can produce results in minutes.
- An antibody test might tell you if you had a past infection. An antibody test might not show if you have a current infection, because it can take 1-3 weeks after infection for your body to make antibodies. Having antibodies to the virus that causes COVID-19 might provide protection from getting infected with the virus again. It is not yet known how much protection the antibodies might provide or how long this protection might last.

Whether the COVID-19 test result is positive or negative, you still should take preventive measures to protect yourself and others.

If the test is positive, meaning the resident or staff member has COVID-19, the community will communicate with state and local health departments for information and direction. It is important to follow their direction to prevent the spread of COVID-19.

Considerations:

- Some tests are more reliable than others. Two measures that relate to test reliability are sensitivity and specificity.
 - Test Sensitivity is the ability of a test to correctly identify those with the disease (true positive rate).
 - Test Specificity is the ability of the test to correctly identify those without the disease (true negative rate).
- Some tests can be processed more quickly than others – turnaround times can vary. Consider the tradeoffs of rapid testing (e.g., 15 minutes) with slightly lower reliability, compared to more reliable tests that take up to two weeks to process and receive results.
- Retesting may be required in some instances. Work closely with state/local authorities to establish protocols for retesting.
- The U.S. Food and Drug Administration is responsible for reviewing and approving tests. While formal approval can take a year or more, FDA also issues Emergency Use Authorizations (EUAs) when warranted, as with the COVID-19 tests currently available.
- Communities that conduct tests are considered laboratories and fall under **Clinical Laboratory Improvement Amendments (CLIA) regulations**. Communities that only collect samples or prepare specimens and do not perform testing are not considered laboratories. ([CFR Title 42, Public Health, Part 493 – Public Laboratories](#))
- More senior living communities have started applying for CLIA Certificates of Waiver to be authorized to administer “waived,” low-complexity tests for COVID-19.
 - CLIA requirements are regulated by the Centers for Medicare and Medicaid Services (CMS), which is part of the Department of Health and Human Services.
 - See the Resources section of this document for a link to the CLIA Certification Application Form.

Treatment: There are several treatments being used for active COVID-19 cases. Treatment includes symptom management, experimental/off label use of existing medicines, and convalescent plasma.

Vaccine: Multiple clinical trials are under way to produce a vaccine for COVID-19. When available, the distribution and administration of the vaccine will need to be coordinated across the country. It is predicted that a vaccine will be available by 2021.

Prevention: The best way to prevent illness is to avoid being exposed to COVID-19. The below actions are recommended to slow and prevent the spread:

- Follow phasing protocols. Adhere to the CDC transmission-based precautions guidance. Isolation and transmission-based precautions are evolving.
- Maintain social distance (about 6 feet).
- Wash your hands often with soap and water for at least 20 seconds. If soap and water are not available, use a hand sanitizer that contains at least 60% alcohol.
- Routinely clean and disinfect frequently touched surfaces.
- Screen residents, visitors, and staff daily. (Refer to state regulations or health department for documentation requirements). Review symptoms of COVID19 and take their temperature. If any are positive, do not allow entry and advise them to see their healthcare provider.
- Have one main point of entry into the community
- Utilize **PPE:**
 - Surgical Masks/Face coverings – Staff wear respirators or surgical masks; residents and visitors wear face coverings. A face covering can be made of cloth and is washable for repeat use. The type of face covering required may be directed by state or local health departments.

Contact the local health department per state guidelines for direction.

Note: For fit testing and staff training information see resource section at the back of this document.

Extended use refers to the practice of wearing the same N95 respirators for repeated close contact encounters with several different residents, without removing the respirator between resident encounters. Extended use is well-suited to situations wherein multiple patients with the same infectious disease diagnosis, whose care requires use of a respirator, are cohorted (e.g., housed on the same wing). Extended use can also be considered for care of residents with tuberculosis, measles, and other infectious diseases where use of a N95 respirator or higher is recommended. When practicing extended use of N95 respirators, the maximum recommended extended use period is 8 -12 hours. Respirators should not be worn for multiple work shifts and should not be reused after extended use. N95 respirators should be removed (doffed) and discarded before activities such as meals and restroom breaks.

Re-use refers to the practice of using the same N95 respirator by one staff for multiple encounters with different residents but removing it (i.e., doffing) after each encounter. This practice is often referred to as “limited reuse” because restrictions are in place to limit the number of times the same respirator is reused. It is important to consult with the respirator manufacturer regarding the maximum number of donnings or uses they recommend for the N95 respirator model. N95 and other disposable respirators should not be shared by multiple staff.

For more information and restrictions on re-use of respirators, see the CDC website, [“Implementing Filtering Facepiece Respirator \(FFR\) Reuse, Including Reuse after Decontamination, When There Are Known Shortages of N95 Respirators.”](#)

- **Face shields/goggles** – apply disinfection processes
- **Gowns** – cloth (dirty gown precautions in place)

Not reused:

- **Gloves** – disposable
- **Gowns** – paper (disposable)

Contact Tracing is also used to prevent and control the further spread of COVID-19 and other contagious infectious diseases. The community works with state and local health departments to trace the point of contact of transmission. Generally, it involves the following:

- **Screening:** have an established documented screening prior to entry with the name(s) of residents/ person(s) visiting within the community as well as staff prior to beginning their shift. Screen residents and document daily (or as directed by local or state authorities) if COVID-19 positive has been diagnosed in the community.
- **Case investigation:** work with the resident/staff to help them recall everyone with whom they have had close contact during the time when they may have been infectious.
- **Contact tracing:** public health staff begin contact tracing by notifying exposed individuals (contacts) of their potential exposure as rapidly and sensitively as possible, not revealing the infected resident/staff’s identity.
- **Contact support:** Contacts are provided with education, information, and support to help them understand their risk, what they should do to separate themselves from others who are not exposed, and how to monitor themselves for illness. Communities have a cohort plan that may involve moving residents to a shared wing with others who have also acquired the virus.

- **Self-quarantine:** Contacts are encouraged to stay home; residents will stay in their rooms, and their health will be monitored, and will maintain social distance (at least 6 feet) from others until 14 days after their last exposure to the infected patient, in case they also become ill.

4. METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)

MRSA is usually spread in a community by contact with infected people or things that are carrying the bacteria. This includes through contact with a contaminated wound or by sharing personal items, such as towels or razors, which have touched infected skin.

Anyone can get MRSA. The risk increases with activities or places that involve crowding, skin-to-skin contact, and shared equipment or supplies. Some of the people who carry MRSA can go on to get a MRSA infection. Non-intact skin, such as when there are abrasions or incisions, is often the site of a MRSA infection. Athletes, daycare and school students, military personnel in barracks, and those who receive inpatient medical care or have surgery or medical devices inserted in their body are at higher risk of MRSA infection. MRSA is a type of bacteria that is resistant to several antibiotics.

The symptoms of a MRSA infection depend on the part of the body that is infected. For example, people with MRSA skin infections often can get swelling, warmth, redness, and pain in infected skin. In most cases it is hard to tell if an infection is due to MRSA or another type of bacteria without laboratory tests that your doctor can order. Some MRSA skin infections can have a fairly typical appearance and can be confused with a spider bite.

However, unless you actually see the spider, the irritation is likely not a spider bite.

Most staph aureus skin infections, including MRSA, appear as a bump or infected area on the skin. **Symptoms** can include:

- Red
- Swollen
- Painful
- Warm to the touch
- Full of pus or other drainage
- Accompanied by a fever

Outside of Healthcare Settings

In the greater community (where you live, work, shop, and go to school), MRSA most often causes skin infections. In some cases, it causes pneumonia (lung infection) and other infections. If left untreated, MRSA infections can become severe and cause sepsis – the body’s extreme response to an infection.

MRSA in Healthcare Settings

In places such as a hospital, nursing home, or senior living community, MRSA can cause severe problems such as:

- Bloodstream infections
- Pneumonia
- Surgical site infections

Treatment: Treatment of MRSA is based on selecting medication(s) that are effective. MRSA is a type of bacteria that is resistant to several antibiotics. Residents will continue to be treated until they are “colonized.” Colonization is when bacteria reside on a resident, but there are no signs or evidence of infection.

Contact the local health department per state guidelines.

Stewardship: Antibiotics are powerful drugs that are generally safe and very helpful in fighting disease, but there are times when antibiotics can actually be harmful. Antibiotics can have side effects, including allergic reactions and a potentially deadly diarrhea caused by the bacteria [Clostridioides difficile \(C. diff\)](#). Antibiotics can also interfere with the action of other drugs a resident may be taking for another condition. These unintended reactions to antibiotics are called adverse drug events. When someone takes an antibiotic that they do not need, they are needlessly exposed to the side effects of the drug and do not get any benefit from it. Moreover, taking an antibiotic when it is not needed can lead to the development of antibiotic resistance. When resistance develops, antibiotics may not be able to stop future infections. Every time someone takes an antibiotic they don't need, they increase their risk of developing a resistant infection in the future.

The healthcare provider will examine and treat the resident with consideration to any other medical conditions.

Contact the local health department per state guidelines.

Prevention: The following steps can reduce the risk of MRSA infection:

- Maintain good hand and body hygiene. Clean hands often, and clean your body regularly, especially after exercise.
- Keep cuts, scrapes, and wounds clean and covered until healed.
- Avoid sharing personal items such as towels and razors.
- Get care early if you might have an infection.

Adhere to isolation and contact precautions.

5. HEPATITIS B (HEP-B)

Hep-B is a serious disease caused by a virus that attacks the liver. The virus, which is called hepatitis B virus (HBV), can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death.

Symptoms begin an average of 90 days (or 3 months) after exposure to the virus, but they can appear any time between 8 weeks and 5 months after exposure. They usually last several weeks, but some people can feel sick for as long as 6 months. These can include:

- Fever
- Fatigue
- Loss of appetite
- Nausea
- Vomiting
- Abdominal pain
- Dark urine
- Clay-colored bowel movements
- Joint pain
- Jaundice (yellow color in the skin or the eyes)

Most people with chronic hepatitis B do not have any symptoms, do not feel ill, and remain symptom free for decades. When and if symptoms do appear, they are similar to the symptoms of acute infection, but can be a sign of advanced liver disease. About 1 in 4 people who become chronically infected during childhood and about 15% of those who become chronically infected after childhood will eventually die from serious liver conditions, like cirrhosis (scarring of the liver) or liver cancer. Some people still do not have symptoms even after their liver becomes diseased, although certain blood tests for liver function might show some abnormalities.

Treatment: There is no medication available to treat acute hepatitis B. For people with mild symptoms, treatment consists of rest, adequate nutrition, and fluids. Those with more severe symptoms may need to be hospitalized. The healthcare provider will determine the course of treatment.

Adhere to Standard and Contact precautions.

Contact the local health department per state guidelines.

Prevention: Hepatitis B vaccine is available for all age groups to prevent HBV infection.

6. HEPATITIS C (HEP-C)

Hep-C is a liver infection caused by the hepatitis C virus (HCV). It is recommended all adults aged 18-79 years, regardless of known risk factors, as well as for teens who engage in injection drug use, are tested. This type of universal screening is important because many are unaware of how, where, or when they were infected and can live for decades without symptoms. Hepatitis C is spread through contact with blood from an infected person. Chronic hepatitis C can result in serious, even life-threatening health problems like cirrhosis and liver cancer. People with chronic hepatitis C can often have no symptoms and don't feel sick. When symptoms appear, they often are a sign of advanced liver disease.

Symptoms include:

- Fever
- Fatigue
- Dark urine
- Clay-colored stool
- Abdominal pain
- Loss of appetite
- Nausea
- Vomiting
- Joint pain
- Jaundice

Treatment: There is no vaccine for hepatitis C. Getting tested for hepatitis C is important, because treatments can cure most people with hepatitis C in eight to 12 weeks.

Contact the local health department per state guidelines.

Prevention: The best way to prevent hepatitis C is by avoiding behaviors that can spread the disease, especially injecting drugs. Uniform application of Standard Precautions should effectively interrupt transmission.

7. HUMAN IMMUNODEFICIENCY VIRUS (HIV)

HIV is a virus spread through certain body fluids that attacks the body's immune system, specifically the CD4 cells, often called T cells. Over time, HIV can destroy so many of these cells that the body can't fight off infections and disease. These special cells help the immune system fight off infections. Untreated, HIV reduces the number of CD4 cells (T cells) in the body. This damage to the immune system makes it harder for the body to fight off infections and some other diseases. Opportunistic infections or cancers take advantage of a very weak immune system and signal that the person has AIDS.

Scientists identified a type of chimpanzee in Central Africa as the source of HIV infection in humans. They believe that the chimpanzee version of the immunodeficiency virus (called simian immunodeficiency virus, or SIV) most likely was transmitted to humans and mutated into HIV when humans hunted these chimpanzees for meat and came into contact with their infected blood. Studies show that HIV may have jumped from apes to humans as far back as the late 1800s. Over decades, the virus slowly spread across Africa and later into other parts of the world. We know that the virus has existed in the United States since at least the mid to late 1970s.

If untreated the disease will go through three stages:

Stage 1 – Acute HIV infection

Within 2 to 4 weeks after infection with HIV, people may experience a flu-like illness, which may last for a few weeks. This is the body's natural response to infection. When people have acute HIV infection, they have a large amount of virus in their blood and are very contagious. But people with acute infection are often unaware that they're infected because they may not feel sick right away or at all. To know whether someone has acute infection, either an antigen/antibody test or a nucleic acid (NAT) test is necessary. If you think you have been exposed to HIV through sex or drug use and you have flu-like symptoms, seek medical care, and ask for a test to diagnose acute infection.

Stage 2 – Clinical latency (HIV inactivity or dormancy)

This period is sometimes called asymptomatic HIV infection or chronic HIV infection. During this phase, HIV is still active but reproduces at very low levels. People may not have any symptoms or get sick during this time. For people who aren't taking medicine to treat HIV, this period can last a decade or longer, but some may progress through this phase faster. People who are taking medicine to treat HIV (ART) as prescribed may be in this stage for several decades. It's important to remember that people can still transmit HIV to others during this phase. However, people who take HIV medicine as prescribed and get and keep an undetectable viral load (or stay virally suppressed) have effectively no risk of transmitting HIV to their HIV-negative sexual partners. At the end of this phase, a person's viral load starts to go up and the CD4 cell count begins to go down. As this happens, the person may begin to have symptoms as the virus levels increase in the body, and the person moves into Stage 3.

Stage 3 – Acquired Immunodeficiency Syndrome (AIDS)

AIDS is the most severe phase of HIV infection. People with AIDS have such badly damaged immune systems that they get an increasing number of severe illnesses, called opportunistic illnesses.

Without treatment, people with AIDS typically survive about 3 years. Common symptoms of AIDS include chills, fever, sweats, swollen lymph glands, weakness, and weight loss. People are diagnosed with AIDS when their CD4 cell count drops below 200 cells/mm or if they develop certain opportunistic illnesses. People with AIDS can have a high viral load and be very infectious.

You can get or transmit HIV only through specific activities. Most commonly, people get or transmit HIV through sexual behaviors and needle or syringe use.

Treatment: HIV medicine is called **antiretroviral therapy**, or **ART**. HIV medicine reduces the amount of HIV in the body (**viral load**) to a very low level, which keeps the immune system working and prevents illness. This is called **viral suppression** — defined as having less than 200 copies of HIV per milliliter of blood. HIV medicine can even make the viral load so low that a test can't detect it. This is called an **undetectable viral load**.

Contact your local health department per state guidelines.

Prevention: Only certain body fluids — blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, and breast milk — from a person who has HIV can transmit HIV. These fluids must come in contact with a mucous membrane or damaged tissue or be directly injected into the bloodstream (from a needle or syringe) for transmission to occur. Mucous membranes are found inside the rectum, vagina, penis, and mouth. Take preventive measures and practice safe sex.

8. TUBERCULOSIS (TB)

TB is caused by a bacterium called *Mycobacterium tuberculosis*. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection (see definitions) and TB disease. If not treated properly, TB disease can be fatal.

There are two types of TB – latent and active:

- People with latent TB infection do not feel sick and do not have any symptoms. They are infected with *M. tuberculosis* but do not have TB disease. The only sign of TB infection is a positive reaction to the tuberculin skin test or TB blood test. **Persons with latent TB infection are not infectious and cannot spread TB infection to others.** (CDC advises latent TB is reportable within 3 days of knowing to the local health department).
- Active TB bacteria are spread through the air from one person to another. The TB bacteria are put into the air when a person with TB disease of the lungs or throat coughs, speaks, or sings. People nearby may breathe in these bacteria and become infected.

When a person breathes in TB bacteria, the bacteria can settle in the lungs and begin to grow. From there, they can move through the blood to other parts of the body, such as the kidney, spine, and brain.

TB disease in the lungs or throat can be infectious. This means that the bacteria can be spread to other people. TB in other parts of the body, such as the kidney or spine, is usually not infectious.

People with TB disease are most likely to spread it to people they spend time with every day. This includes visitors, family members, friends, and other residents.

Note: It is important to be familiar with the expectations for reporting TB with your local health department and state authorities.

Symptoms of TB disease depend on where in the body the TB bacteria are growing. TB bacteria usually grow in the lungs (pulmonary TB). TB disease in the lungs may cause symptoms such as:

- A bad cough that lasts 3 weeks or longer
- Pain in the chest
- Coughing up blood or sputum (phlegm from deep inside the lungs)

Other symptoms of TB disease are:

- Weakness or fatigue
- Weight loss
- No appetite
- Chills
- Fever
- Sweating at night

People who have latent TB infection do not feel sick and do not have any symptoms. Many people who have latent TB infection never develop TB disease. But some people who have latent TB infection are more likely to develop TB disease than others. Those at high risk for developing TB disease include:

- People with HIV infection
- People who became infected with TB bacteria in the last 2 years
- Babies and young children
- People who inject illegal drugs
- People who are sick with other diseases that weaken the immune system
- Seniors
- People who were not treated correctly for TB in the past

Treatment: The healthcare provider will determine the course of treatment. There are 10 drugs currently approved by the FDA for treating TB. Of the approved drugs, the first-line anti-TB agents that form the core of treatment regimens are:

- Isoniazid (INH)
- Rifampin (RIF)
- Ethambutol (EMB)
- Pyrazinamide (PZA)

Active disease require transmission based airborne precautions. An isolation room may be needed in a skilled care facility. Contact the local health department for direction and reporting requirements per state guidelines.

Note: It is important to fully complete the medication regime ordered by the health care provider. Drug resistance is on the rise and it is important to note progress during treatment.

Prevention: Be symptom aware and discuss with the healthcare provider.

Perform Contact Tracing: Utilize your contact tracing protocols. (See contact tracing section of this document). Adhere to airborne precautions.

9. ESCHERICHIA COLI (E.COLI)

E. coli are bacteria found in the environment, foods, and intestines of people and animals. E. coli are a large and diverse group of bacteria. Although most strains of E. coli are harmless, others can make you sick. Some kinds of E. coli can cause diarrhea, while others cause urinary tract infections, respiratory illness and pneumonia, and other illnesses.

Symptoms vary for each person, but often include:

- Severe stomach cramps
- Diarrhea (often bloody)
- Vomiting
- Some people may have a fever, which usually is not very high (less than 101°F/38.5°C)

Treatment: Most people get better within 5 to 7 days. Some infections are very mild, but others are severe or even life-threatening.

Most people with a STEC infection start feeling sick three to four days after eating or drinking something that contains the bacteria. However, illnesses can start anywhere from one to 10 days after exposure. Contact your healthcare provider if you have diarrhea that lasts for more than three (3) days or

diarrhea that is accompanied by a fever higher than 102°F, blood in the stool, or so much vomiting that you cannot keep liquids down and you pass very little urine.

Most E. coli are harmless and are an important part of a healthy human intestinal tract.

Contact the local health department per state guidelines.

Prevention: Practice frequent hand hygiene, especially after going to the restroom or assisting with bowel incontinence briefs.

If soap and water aren't available, use an alcohol-based hand sanitizer with at least 60% alcohol.

Cook meats thoroughly and use a meat thermometer to verify meat is fully cooked per appropriate meat temperatures.

Wash fruits and vegetables under running water. Avoid raw milk and unpasteurized dairy and juice products.

There are four important steps when preparing food:

Clean: Wash your hands and surfaces often.

- Germs that cause food poisoning can survive in many places and spread [around your kitchen](#).
- Wash hands for 20 seconds with soap and water before, during, and after preparing food and before eating.
- Wash your utensils, cutting boards, and countertops with hot, soapy water.
- Rinse fresh [fruits and vegetables](#) under running water.

Separate: Don't cross-contaminate.

- [Raw meat, poultry, seafood, and eggs can spread germs](#) to ready-to-eat foods, unless you keep them separate.
- Use separate cutting boards and plates for raw meat, poultry, and seafood.
- When grocery shopping, keep raw meat, poultry, seafood, and their juices away from other foods.
- Keep raw meat, poultry, seafood, and eggs separate from all other foods in the refrigerator.

Cook: To the right temperature.

- Food is safely cooked when the internal temperature gets high enough to kill germs that can make you sick. The only way to tell if food is safely cooked is to use a food thermometer. You can't tell if food is safely cooked by checking its color and texture.

- Use a food thermometer to ensure foods are cooked to a safe internal temperature.
 - 145°F for whole cuts of beef, pork, veal, and lamb (then allow the meat to rest for 3 minutes before carving or eating)
 - 160°F for ground meats, such as beef and pork
 - 165°F for all poultry, including ground chicken and turkey
 - 165°F for leftovers and casseroles
 - 145°F for fresh ham (raw)
 - 145°F for fin fish or cook until flesh is opaque

Chill: Refrigerate promptly.

- Bacteria can multiply rapidly if left at room temperature or in the “Danger Zone” between 40°F and 140°F. Never leave perishable food out for more than 2 hours (or 1 hour if it’s hotter than 90°F outside).
- Keep your refrigerator at 40°F or below and know when to throw out food.
- Refrigerate perishable food within 2 hours. (If outdoor temperature is above 90°F, refrigerate within 1 hour.)
- Thaw frozen food safely in the refrigerator, in cold water, or in the microwave. Never thaw foods on the counter, because bacteria multiply quickly in the parts of the food that reach room temperature.

10. CLOSTRIDIODES DIFFICILE (C. diff)

C. diff was formerly known as *Clostridium difficile*. Now it is referred to as *Clostridioides difficile*. *C. diff* is a bacterium (germ) that causes diarrhea and colitis (an inflammation of the colon).

Most cases of *C. diff* occur while you’re taking antibiotics or soon after you’ve finished taking antibiotics. *C. diff* can be deadly.

Risk factors include:

- Being 65 or older
- Recent hospitalizations
- A weakened immune system
- Previous infection with *C. diff* or known exposure to germ

Symptoms might develop within a few days after you begin taking antibiotics. These include:

- Diarrhea including loose, watery stools or frequent bowel movements for several days
- Fever
- Stomach tenderness or pain
- Loss of appetite
- Nausea

Treatment: Developing diarrhea is fairly common while on, or after taking, antibiotics. Contact the healthcare provider if diarrhea is severe. The healthcare provider will determine the treatment course. A stronger antibiotic for at least 10 days is an example of treatment.

Antibiotic course may include:

- Vancomycin
- Fidaxomicin

The risk of spreading *C. diff* after completing treatment is low. But if you’re colonized, you can still spread it to others.

So always wash your hands with soap and water before you eat and after you use the bathroom. Showering and washing with soap is the best way to remove any germs you might be carrying on your body.

Sometimes when healthy people come into contact with *C. diff*, they will begin to carry the germs in or on their body, but they won’t get sick.

In medical terms, they are said to be “colonized.” This is also sometimes called “*C. diff* carriage,” and a person might be said to be a “*C. diff* carrier.”

Someone who is colonized has NO signs or symptoms.

Colonization is more common than *C. diff* infection and does not require treatment. Once your body is colonized, you can remain colonized for several months.

If you are colonized you can spread the infection to others.

Some reasons you might become colonized are:

- You’ve recently recovered from *C. diff*
- You have a history of taking antibiotics
- You’ve recently been hospitalized

Because it’s possible to spread *C. diff* to others while you’re colonized, it’s important to always practice good hand hygiene, making sure to wash your hands well with soap and water before eating and after using the bathroom.

Contact the local health department per state guidelines.

Prevention: *C. diff* germs are carried from person to person in feces.

If someone who has or is caring for someone with *C. diff* doesn’t clean their hands with soap and water after using the bathroom, they can spread the germs to everything they touch.

And if someone with C. diff can't take a shower with soap and water, they can end up with the germs on their skin.

Then, when someone else touches the skin of that person, or the surfaces that person touched, they can pick up the germs on their hands.

The best way to prevent the spread of C. diff in a community is to:

- Rapidly identify and isolate residents with the germ
- Utilize barrier precautions; practice hand hygiene/hand washing, gloving, isolation, and cohorting. Wear gloves and gowns when caring for residents
- Wash hands with soap and water, (hand sanitizer does not kill C. diff)
- Sanitize and disinfect surfaces to avoid the spread:
 - Doorknobs
 - Electronics (be careful, because bleach can damage many electronics and plastics)
 - Refrigerator handles
 - Shared cups
 - Toilet flushers and toilet seats
- Be judicious with antibiotic use
- Encourage showers and wash with soap and water
- Environmental cleaning and disinfection
- Utilize laundry precautions – Wash items touched before others use them. These include but are not limited to:
 - Bed linens
 - Towels
 - Linens
 - Clothing, especially underwear

If these things have visible feces, rinse them well before washing.

Then launder in a washer and dryer, using the hottest water that is safe for those items. Use chlorine bleach if the items can be safely washed with it.

Otherwise run an empty load with hot water and bleach after the clothing, (CDC rule of making a good cleaning solution of 1 part bleach to 9 parts water), to disinfect the machine and prevent the spread.

Wash your hands with soap and water after you handle the dirty laundry.

11. NOROVIRUS

Norovirus is the most common virus that is not related to the flu. It is the most common cause of vomiting, diarrhea, and foodborne illness.

Symptoms include:

- Diarrhea
- Vomiting
- Nausea
- Stomach pain

Other symptoms include:

- Fever
- Headache
- Body ache

Norovirus causes inflammation of the stomach or intestines – this is called acute gastroenteritis

A person usually develops symptoms 12 to 48 hours after being exposed to norovirus. Most people with norovirus illness get better within one to three days.

A person with norovirus illness can feel extremely ill, and vomit or have diarrhea many times a day. This can lead to dehydration, especially in older adults and people with other illnesses.

Noro is accidentally transmitted by getting tiny particles of feces or vomit from an infected person in the mouth.

This can happen if a person:

- Eats food or drinks liquids contaminated with norovirus
- Touches surfaces or objects contaminated with norovirus and then puts their fingers in their mouth
- Has direct contact with someone who is infected with norovirus, such as caring for them

A person can shed billions of norovirus particles that can't be seen without a microscope. Only a few norovirus particles can make other people sick.

People are most contagious:

- When they have symptoms of norovirus, especially vomiting
- During the first few days after they recover from norovirus

However, studies have shown that people can still spread norovirus for two weeks or more after feeling better.

Note: Follow the percentage reporting and closure requirements per the local health department and/or state authorities for infectious disease reporting. This percentage will help guide the community and initiate isolation measures.

Treatment: Dehydration can lead to serious problems.

Contact the healthcare provider for treatment. Contact the local health department per your state guidelines.

Symptoms of dehydration include:

- Decrease in urination
- Dry mouth and throat
- Feeling dizzy when standing up

To prevent dehydration, drink plenty of liquids to replace fluid lost from vomiting and diarrhea. This will help prevent dehydration.

Prevention: There is currently no vaccine to prevent norovirus.

Should an outbreak occur:

- Practice proper hand hygiene. Wash your hands thoroughly with soap and water, especially after assisting a resident with toileting or changing adult briefs
- Always wash hands before food handling and assistance/administration with medication
- Perform increased cleaning and disinfection of high contact surfaces
- Discontinue communal dining and food sources
- Use precautions when handling soiled materials
- Restrict nonessential visitors
- Encourage resident hand-washing before eating
- Follow any other directives given by local health department or state authorities

Note: Hand sanitizers are not as effective at removing norovirus particles as hand washing.

Perform Contact Tracing: Utilize your contact tracing protocols. (See contact tracing section of this document).

12. SHINGLES

About 1 out of every 3 people in the United States will develop shingles, also known as herpes zoster, in their lifetime. An estimated 1 million people get shingles each year in this country. If you've ever had chickenpox, you can get shingles. Even children can get shingles. Your risk of shingles increases as you get older.

Shingles is a painful rash that develops on one side of the face or body. The rash consists of blisters that typically scab over in 7 to 10 days. It fully clears up within two to four weeks.

Note: The CDC cautions that pregnant women who have not had chicken pox or the vaccine should avoid contact with active cases.

Before the rash appears, people often have pain, itching, or tingling in the area where it will develop. This may happen several days before the rash appears.

The virus that causes shingles, varicella zoster virus (VZV) can spread from a person with active shingles and cause chickenpox in someone who had never had chickenpox or received chickenpox vaccine

Most commonly, the rash occurs in a single stripe around either the left or the right side of the body. In other cases, the rash occurs on one side of the face. Shingles on the face can affect the eye and cause vision loss. In rare cases (usually in people with weakened immune systems), the rash may be more widespread on the body and look similar to a chickenpox rash.

Other symptoms of shingles can include:

- Fever
- Headache
- Chills
- Upset stomach

Treatment: The healthcare provider determines the treatment. They may prescribe one of the several antiviral medicines—acyclovir, valacyclovir, and famciclovir—that are available to treat shingles and shorten the length and severity of the illness.

VZV spreads through direct contact with fluid from the rash blisters.

To prevent spreading VZV to others:

- Cover the rash
- Avoid touching or scratching the rash
- Wash your hands often
- Avoid contact with others until your rash crusts

Contact the local health department per your state guidelines.

Prevention: Two shingles vaccines are licensed and recommended in the United States. Zoster vaccine live (ZVL, Zostavax) has been used since 2006; recombinant zoster vaccine (RZV, Shingrix) has been used since 2017 and is recommended as the preferred shingles vaccine.

13. CONJUNCTIVITIS

Conjunctivitis is also known as “pink eye” because it can cause the white of the eye to become pink or reddish. The most common causes of conjunctivitis are:

- Viruses
- Bacteria
- Allergens

Viral Conjunctivitis: Most cases of viral conjunctivitis are mild. The infection will usually clear up in 7 to 14 days without treatment and without any long-term consequences. However, in some cases, viral conjunctivitis can take 2 to 3 weeks or more to clear up.

- Infection of the eye caused by a virus
- Can be caused by several different viruses, such as adenoviruses
- Very contagious
- Sometimes can result in large outbreaks depending on the virus

Bacterial Conjunctivitis: Mild bacterial conjunctivitis may get better without antibiotic treatment and without causing any complications. It often improves in 2 to 5 days without treatment but can take 2 weeks to go away completely.

- Infection of the eye caused by certain bacteria
- Can be caused by: *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Moraxella catarrhalis*, or, less commonly, *Chlamydia trachomatis* and *Neisseria gonorrhoeae*
- Can be spread easily, especially with certain bacteria and in certain settings
- More common in children than in adults
- Observed more frequently December through April

Allergic Conjunctivitis: Conjunctivitis caused by an allergen (such as pollen or animal dander); usually improves by removing the allergen from the person’s environment.

- The result of the body’s reaction to allergens such as pollen from trees, plants, grasses, and weeds, dust mites, molds, pet dander, medicines, or cosmetics
- Not contagious
- Occurs more frequently among people with other allergic conditions, such as hay fever, asthma, and eczema
- Can occur seasonally, when allergens such as pollen counts, are high
- Can also occur year-round due to indoor allergens, such as dust mites and animal dander

Symptoms include:

- Pink or red color in the white of the eye(s)
- Swelling of the conjunctiva (the thin layer that lines the white part of the eye and the inside of the eyelid) and/or eyelids
- Increased tear production
- Feeling like a foreign body is in the eye(s) or an urge to rub the eye(s)
- Itching, irritation, and/or burning
- Discharge (pus or mucus)
- Crusting of eyelids or lashes, especially in the morning
- Contact lenses that feel uncomfortable and/or do not stay in place on the eye

Treatment: Contact the healthcare provider for treatment and contact the local health department per state guidelines.

Prevention: Viral and bacterial conjunctivitis (pink eye) are very contagious. They can spread easily from person to person. There is no vaccine that prevents all types of conjunctivitis. However, there are vaccines to protect against some viral and bacterial diseases that are associated with conjunctivitis:

- Rubella
- Measles
- Chickenpox
- Shingles
- Pneumococcal
- *Haemophilus influenzae* type b (Hib)

You can greatly reduce the risk of getting conjunctivitis or spreading it to someone else by following some simple steps for good hygiene.

Help limit its spread to others by:

- Washing hands often with soap and warm water for at least 20 seconds. Wash them especially well before and after cleaning, or applying eye drops or ointment to the infected eye. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol to clean hands.
- Avoid touching or rubbing the eyes. This can worsen the condition or spread it to the other eye.
- With clean hands, wash any discharge from around the eye(s) several times a day using a clean, wet washcloth or fresh cotton ball. Throw away gauze squares or cotton balls after use, and wash used washcloths with hot water and detergent, then wash hands again with soap and warm water.

- Do not use the same eye drop dispenser/bottle for the infected and non-infected eyes.
- Wash pillowcases, sheets, washcloths, and towels often in hot water and detergent. (Wash hands after handling such items.)
- Stop wearing contact lenses until your eye doctor or healthcare provider says it's okay to start wearing them again.
- Clean eyeglasses, being careful not to contaminate items (like hand towels) that might be shared by other people.
- Clean, store, and replace the contact lenses as instructed by the eye doctor or healthcare provider.
- Do not share personal items, such as pillows, washcloths, towels, eye drops, eye or face makeup, makeup brushes, contact lenses, contact lens storage cases, or eyeglasses.
- Do not use swimming pools.

14. LEGIONNAIRES' DISEASE

Legionnaires' (LEE-juh-nares) disease is a serious type of pneumonia (lung infection) caused by Legionella (LEE-juh-nell-a) bacteria. People can get sick when they breathe in mist or accidentally swallow water into the lungs containing Legionella.

Legionella is a type of bacterium found naturally in freshwater environments, like lakes and streams. It can become a health concern when it grows and spreads in human-made building water systems, including:

- Showerheads and sink faucets
- Cooling towers (structures that contain water and a fan as part of centralized air-cooling systems for building or industrial processes)
- Hot tubs that aren't drained after each use
- Decorative fountains and water features
- Hot water tanks and heaters
- Large plumbing systems

Home and car air-conditioning units do not use water to cool the air, so they are not a risk for Legionella growth.

Legionellosis, the condition caused by Legionella, can present as two types of illnesses: Legionnaires' disease and Pontiac fever. These two illnesses can be diagnosed through similar tests but are treated differently. The diseases typically spread when the bacteria multiply in a building water system, and people breathe in small droplets of infected water or mist.

Less commonly, people can get sick by aspirating (breathing in) drinking water containing Legionella such as when water accidentally goes into the lungs while drinking. People with swallowing difficulties are at increased risk.

Most healthy people exposed to Legionella do not get sick. People at increased risk of getting sick are:

- People 50 years or older
- Current or former smokers
- People with a chronic lung disease (like chronic obstructive pulmonary disease or emphysema)
- People with weak immune systems or who take drugs that weaken the immune system (such as drugs given after a transplant operation or chemotherapy)
- People with cancer
- People with underlying illnesses such as diabetes, kidney failure, or liver failure

Symptoms are very similar to other types of pneumonia (lung infection), and include:

- Cough
- Shortness of breath
- Fever
- Muscle aches
- Headaches

Legionnaires' disease can also be associated with other symptoms such as diarrhea, nausea, and confusion. Symptoms usually begin 2 to 10 days after being exposed to the bacteria, but because symptoms can take longer to appear, people should be careful for about two weeks after exposure.

Note: Legionnaires' disease should be reported to local health departments and state authorities, who are to notify the CDC. The local or state health department where a patient lives or an outbreak is occurring is the best source of information about specific cases or situations.

Treatment: Contact the healthcare provider and your local department of health per state regulations.

Possible complications of Legionnaires' disease include lung failure and death.

Prevention: The key to preventing Legionnaires' disease is to ensure community managers maintain building water systems to reduce the risk of Legionella growth and spread. Schedule routine maintenance of building and recreational water systems to prevent disease. (Example: Shower heads should be maintained quarterly.)

15. BED BUGS

Bed bugs are a problem worldwide, causing property loss, expense, and inconvenience. The good news is that bed bugs do not transmit disease.

Bed bugs (*Cimex lectularius*) are small, flat, parasitic insects that feed solely on the blood of sleeping people and animals. Bed bugs are reddish-brown in color, wingless, range from 1mm to 7mm (roughly the size of Lincoln's head on a penny), and can live several months without a blood meal.

Bed bug infestations usually occur around or near the areas where people sleep. These areas include apartments, shelters, rooming houses, hotels, cruise ships, buses, trains, and dorm rooms. They hide during the day in places such as seams of mattresses, box springs, bed frames, headboards, dresser tables, inside cracks or crevices, behind wallpaper, or any other clutter or objects around a bed. Bed bugs have been shown to be able to travel over 100 feet in a night but tend to live within 8 feet of where people sleep.

Bed bugs are not known to spread disease. Bed bugs can be an annoyance because their presence may cause itching and loss of sleep. Sometimes the itching can lead to excessive scratching that can increase the chance of a secondary skin infection.

A bed bug bite affects each person differently. Bite responses can range from an absence of any physical signs of the bite, to a small bite mark, to a serious allergic reaction. Bed bugs are not considered to be dangerous. However, an allergic reaction to several bites may need medical attention.

Bed bugs are experts at hiding. Their slim, flat bodies allow them to fit into the smallest of spaces and stay there for long periods of time, even without a blood meal. Bed bugs are usually transported from place to place as people move or travel.

Note: Inspect new resident bedding and furniture at the time of move in.

Signs and Symptoms: One of the easiest ways to identify a bed bug infestation is by the tell-tale bite marks on the face, neck, arms, hands, or other body parts. However, these bite marks may take as long as 14 days to develop in some people, so it is important to look for other clues when determining if bed bugs have infested an area. These signs include:

- The bed bugs' exoskeletons after molting
- Bed bugs in the fold of mattresses and sheets
- Rust-color spots on mattresses or furniture (due to blood-filled fecal matter)
- A sweet musty odor

It is hard to tell if you've been bitten by a bed bug unless you find bed bugs or signs of infestation. When bed bugs bite, they inject an anesthetic and an anticoagulant that prevents a person from realizing they are being bitten. Most people do not realize they have been bitten until bite marks appear anywhere from one to several days after the initial bite. The bite marks are similar to that of a mosquito or a flea — a slightly swollen and red area that may itch and be irritating. The bite marks may be random or appear in a straight line.

Other symptoms of bed bug bites include:

- Insomnia
- Anxiety
- Skin problems that arise from profuse scratching of the bites

Because bed bug bites affect everyone differently, some people may have no reaction and will not develop bite marks or any other visible signs of being bitten. Other people may be allergic to the bed bugs and can react adversely to the bites. These allergic symptoms can include enlarged bite marks, painful swellings at the bite site, and, on rare occasions, anaphylaxis.

Treatment & Prevention: Bed bug bites usually do not pose a serious medical threat. The best way to treat a bite is to avoid scratching the area and contact the healthcare provider who can determine a course of treatment. Report to your local health department per your state regulatory guidelines.

Adhere to contact precautions.

16. SCABIES

Human scabies is caused by an infestation of the skin by the human itch mite (*Sarcoptes scabiei* var. *hominis*). The microscopic scabies mite burrows into the upper layer of the skin where it lives and lays its eggs. The most common symptoms of scabies are intense itching and a pimple-like skin rash. The scabies mite usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies.

Scabies occurs worldwide and affects people of all races and social classes. Scabies can spread rapidly under crowded conditions where close body contact is frequent. Institutions such as nursing homes, extended-care facilities, and senior living communities are often sites of scabies outbreaks.

Diagnosis of a scabies infestation usually is made based upon the customary appearance and distribution of the rash and the presence of burrows.

Whenever possible, the diagnosis of scabies should be confirmed by identifying the mite or mite eggs or fecal matter (scybala). This can be done by carefully removing the mite from the end of its burrow using the tip of a needle or by obtaining a skin scraping to examine under a microscope for mites, eggs, or mite fecal matter (scybala). However, a person can still be infested even if mites, eggs, or fecal matter cannot be found. Fewer than 10-15 mites may be present on an infested person who is otherwise healthy.

Treatment: Symptoms can typically take 4-8 weeks to develop. However, an infested person can still spread scabies during this time. Contact your healthcare provider as soon as symptoms appear for a treatment course and local department of health per state guidelines.

Products used to treat scabies are called scabicides because they kill scabies mites. Some scabicides also kill mite eggs. Scabicides used to treat human scabies are available only with a doctor's prescription. No "over-the-counter" (non-prescription) products have been tested and approved to treat scabies.

Prevention & Control: Scabies is prevented by avoiding direct skin-to-skin contact with an infested person or contact with items such as clothing or bedding used by an infested person. Scabies treatment usually is recommended for members of the same household, particularly for those who have had prolonged skin-to-skin contact. All household members and other potentially exposed persons should be treated at the same time as the infested person to prevent possible re-exposure and reinfestation. Utilize Contact Precautions until 24 hours after treatment.

Bedding and clothing worn or used next to the skin anytime during the 3 days before treatment should be machine washed and dried using the hot water and hot dryer cycles or be dry-cleaned. Items that cannot be dry-cleaned or laundered can be disinfested by storing in a closed plastic bag for several days to a week. Scabies mites generally do not survive more than 2 to 3 days away from human skin. Children and adults usually can return to childcare, school, or work the day after treatment.

Persons with crusted scabies and their close contacts, including household members, should be treated rapidly and aggressively to avoid outbreaks. Institutional outbreaks can be difficult to control and require a rapid, aggressive, and sustained response.

Rooms used by a resident with crusted scabies should be thoroughly cleaned and vacuumed after use.

Perform Contact Tracing: Utilize your contact tracing protocols. (See contact tracing section of this document).

C. COHORTING OF RESIDENTS

Cohorting is the practice of grouping together residents who are infected with the same organism to confine their care to one area and prevent contact with other residents. Cohorts are created based on clinical diagnosis, microbiologic confirmation when available, epidemiology, and mode of transmission of the infectious agent. Cohorting has been used extensively for managing outbreaks.

Contact the local health department and state regulatory authority for guidance.

Also, give consideration to any laws regarding the moving and establishing of temporary rooms for ill residents.

It is recommended to maintain a separate supply of PPE. Establishing the appropriate PPE required is dependent upon the disease. Allow space in your designated area for the doffing and donning of PPE as well as the removal and disposal of used cleaning supplies.

D. CONTACT TRACING

Contact tracing is used to prevent and control the further spread of an infectious disease. The community works with state and local health departments to trace the point of contact of transmission. Generally, it involves the following:

- **Screening:** employees and residents using a symptom check-list that is characteristic to the type of infectious disease found. Check with your local health department and state regulations for guidelines. Documentation of findings is kept.
- **Case investigation:** work with the resident/staff to help them recall everyone with whom they have had close contact.
- **Contact support:** Contacts are provided with education, information, and support to help them understand their risk, what they should do to separate themselves from others who are not exposed, and how to monitor themselves for illness. Communities may need to transfer a resident to another facility for treatment. The state and local health departments will provide direction.
- **Self-quarantine:** Contacts are encouraged to stay home and residents to stay in their rooms. Their health will be monitored in case they also become ill.

E. SURVEILLANCE, INVESTIGATION, DATA COLLECTION, IPC TREND REVIEWS

Surveillance is a process to help detect, characterize, and investigate the possible outbreak of respiratory illness. (See Forms section.) With this information, the community can:

- Guide and collaborate in care decision-making
- Control interventions
- Develop needed policies and procedures as related to the IPC Program

Information is collected by service type: Assisted Living and Dementia Care.

A transparent system is in place to collect data, review processes and efficiency, and evaluate outcomes.

This information is recorded and reported to authorities, including some or all the following as required and directed:

- The U.S. Centers for Disease Control (CDC)
- The Centers for Medicare & Medicaid Services (CMS)
- Health and Human Services (HHS)
- State regulatory
- Local authorities, such as the health department

Selection of data points to monitor and trend can include:

- Required reporting to local, state, or other regulatory authorities
- Areas directed by the company
- Disease processes/procedures/protocols
- Other relevant information

F. RESIDENT COMPASSION DURING TIMES OF ILLNESS

Fear and anxiety about a new disease and what could happen can be overwhelming and cause strong emotions. Public health actions, such as social distancing, limiting dining to in room and other actions can make people feel isolated and lonely and can increase stress and anxiety. However, these actions are necessary to reduce the spread of the pathogen.

Coping with stress in a healthy way will make you, the people you care about, and your community stronger.

Stress during an infectious disease outbreak can and may cause feelings such as:

- Fear about your own health or that of your loved ones, financial situation, ill and/or worry about death of friends/family/other residents, loss of services

- Difficulty sleeping
- Worsening chronic health problems, less physical activity
- Grief
- Worsening mental health conditions (depression and anger)
- Increased use of tobacco and/or alcohol and other substances

Residents, families, and team members may experience increased stress, which can be overwhelming and cause strong emotions.

It can be stressful to be separated from others, whether this is by choice, or whether you were exposed to or have an illness. Each person may feel differently about it.

Help residents, families and team members take control of stress by educating them to actions that may be helpful, such as scheduling a daily routine during the pandemic:

- Try to eat healthy, well-balanced meals, exercise regularly (even if isolated to room), and get plenty of sleep
- Avoid alcohol, tobacco, and other drugs
- Share concerns about how they feel with staff, their family members or other residents via phone or video calls; maintain healthy relationships and build a strong support system
- Make time to unwind and remind themselves that strong feelings will fade
- Take deep breaths
- Watch, listen to, or read the news for updates from officials. Be aware there may be rumors during a crisis, especially on social media. Check your sources and turn to reliable sources of information
- Take breaks from watching, reading, or listening to news stories. It can be upsetting to hear about the crisis and see images repeatedly
- Do enjoyable normal life activities

Should interventions not succeed, contact a Mental Health Professional. If in crisis, call 911.

G. MEDICAL ACCESS DURING OUTBREAKS/ PANDEMICS – TELEHEALTH

Nurse advice lines and telemedicine can screen and manage residents without the need for a face-to-face visit. Promoting the use of these technologies and referral networks can help triage persons to the appropriate level of care, potentially reducing the influx of patients to healthcare facilities and reserving personal protective equipment for when it is needed.

H. EMERGING PATHOGENS – PREVENTION AND CONTROL

Each day more information is learned about COVID-19, spend some time during/after the crisis is over to have an emerging pathogen template as a means of prevention for future pathogens. Use the COVID-19 information as the framework.

Establish an Infection Prevention and Control Function in your Community. Utilize the following areas to assist in the development of an emerging pathogen plan:

Note: This is not an exhaustive list; details of the plan may vary.

Identify the risks in your business from the pathogen:

- Resident population
- Services provided
- Illness in the outside community
- Review State, Corporate, other requirements

Identify the type of pathogen and how it is transmitted:

- Contact
- Airborne
- Droplet

Utilize tools available from the CDC, CMS, and senior living industry to assist with your efforts. (As with COVID-19, utilize the [CDC COVID-19 Assessment Tool](#)).

- Areas would include your goals and objectives based upon the risks you've identified.

Establish processes for:

- Restricting and stopping visitation to the community
- Education (understanding the spread of the disease and transmission), monitoring, and screening of all staff and third-party providers
- Education, monitoring, and screening of all residents (including admission and readmission practices)
- Evaluating PPE needed, availability/reuse practices of PPE/ other supplies, inventories
- Adherence to recommended IPC practices
- Surveillance activities are recommended until the outbreak is declared over by the assembled investigative team. Note: Surveillance activities are often dictated by the pathogen, the incubation period, and the residents.
- Investigation and Data collection – The data will yield valuable information for the investigation team. These efforts prevent the further spread of the pathogen and help to prevent recurrence.

Note: Generally, if active surveillance has been in place and no new cases have been identified during a period of twice as long as the incubation period, measures can be discontinued.

- Communication with the local health department, state, and other healthcare resources
- Documenting areas of challenge that may need further evaluation such as testing and retesting.

Incorporate the Pandemic Plan into your Disaster Plan.

Areas to address may include:

- Establishing a multidisciplinary planning committee to address infectious diseases
- Implementation of the Plan throughout the community
- Making the Plan available and accessible to employees at all times
- Establishing a clear chain of command that is documented in the Plan, with succession noted

Update emergency & contact information consider providers such as:

- Hospitals
- Physicians
- Residents
- Families
- Ambulance Services
- Pharmacies
- Health Departments, and applicable other local/state authorities

Evaluate Isolation/Quarantine procedures considering:

- Identification of a separate area for Isolation PPE which may be used as needed
- Identification of Resident room and/or wing of the community: Review infection scenarios that may require resident quarantining vs. isolation

Contracts: Recommend primary and back-up contracts in place for:

- PPE supplies: gowns, gloves, N95 respirators, masks, face shields/goggles, hand sanitizer, supplies for handwashing, PPE disposal, disposable plates/knives/forks/cups/condiments, and disinfectants
- Hazardous waste storage and removal
- Staffing assistance as needed

Communication: Recommend development of a communication plan, consider scripts/talking points available for:

- Staff
- Families
- Residents
- Media as needed
- Public Health Officials/State/OSHA-employee exposure

Staff: A recommended support and education plan for staff support and education are important aspects of an IPC program and maintaining a healthy staff team. Processes and education should address:

- Disease-specifics
- PPE use
- Storage area and inventory of PPE supplies
- PPE disposal
- Hand hygiene/sanitizer use
- Break scheduling
- Daily screening prior to start of shift
- Exposure
- Sick leave policies and return to work protocols

Examples of talking points include:

- Definitions of essential and non-essential visitors
- Entrance allowed to community through the main entryway only
- Processes for hand hygiene/sanitizer use
- Cough etiquette
- Specimen collection, lab, and reporting results processes
- Daily screening of residents
- Screening of visitors
- Social distancing
- Visitation restrictions
- Cancelling of activities
- Cancelling of communal dining
- Reopening phasing plans and processes
- Non-contact visitation
- Designated short meeting and designated areas
- Communal dining schedules incorporating six foot distancing between residents
- Any other required information

Monitoring: During a pandemic, several processes should be evaluated and monitored. Some of these processes may include:

- Staffing levels
- Identifying ways to stay up-to-date with ongoing information and practices from the CDC, CMS, and state/local authorities
- Establishing daily checks of community infection numbers occurring outside of the building
- Processes to monitor the health of all residents in the event of illness. For example, for COVID-19 this would include:
 - Daily/or more frequent fever/symptom check
 - Vital signs
- Other monitoring as ordered by the physician.
- Develop a plan, working with state/local authorities, physicians and/or healthcare providers, of when to transfer a resident or residents to the hospital, close the community to outside visitation, and initiate isolation/quarantine procedures.

Performance Review

- Review procedures utilized and effectiveness
- Update/modify practices as needed to improve outcomes

Annual Review: Perform an annual review of the plan to ensure that it remains up to date.

GLOSSARY OF ABBREVIATIONS

AIDS – Acquired Immune Deficiency Syndrome

C. diff – Clostridioides Difficile (Also referred to as CDI)

CDC – U.S. Centers for Disease Control and Prevention

CMS – Centers for Medicare and Medicaid Services

COVID-19 – Severe Acute Respiratory Syndrome
Coronavirus 2 (SARS-CoV-2)

E. coli – Escherichia Coli

FDA – U.S. Food and Drug Administration

Flu – Influenza

Hep B – Hepatitis B

Hep C – Hepatitis C

HHS – U.S. Department of Health and Human Services

HIV – Human immunodeficiency virus

IPC – Infection Prevention and Control Program

MSDS – Material Safety Data Sheet (also Safety Data Sheet)

MRSA – Methicillin resistant staphylococcus aureus

NIOSH – National Institute for Occupational Safety and Health

PPE – Personal Protective Equipment

RSV – Respiratory Syncytial Virus

TB – Tuberculosis

VZV – Varicella zoster virus – Shingles and Chickenpox

DEFINITIONS

Antibody – Y-shaped protein produced by B cells of the immune system in response to exposure to antigens.

Antigen – A molecule capable of stimulating an immune response. Each antigen has distinct surface features, or epitopes, resulting in specific responses.

Assisted Living – Assisted living is a community based setting combining housing, health care, and supportive services for people – typically older adults – who need assistance with activities of daily living. The level of assistance available through assisted living varies and is regulated by states.

Bacteria – Microscopic single-celled organisms lacking a distinct nucleus. They may be shaped like spheres, rods, or spirals. They inhabit virtually all environments, including soil, water, organic matter, and the bodies of animals.

Bioaerosols – An airborne collection of biological material. These can be comprised of bacterial cells and cellular fragments, fungal spores and fungal hyphae, viruses, and by-products of microbial metabolism.

Cleaning – Use of soap and water to remove germs, dirt, and impurities from surfaces. It lowers the risk of spreading infection.

Disinfecting – Killing germs on surfaces. Killing germs on a surface after cleaning can further reduce the risk of spreading infection.

Elastomeric respirator – Half-facepiece, tight-fitting respirators that are made of synthetic or rubber material permitting them to be repeatedly disinfected, cleaned, and reused. They are equipped with replaceable filter cartridges. Similar to N95 respirators.

Epidemic – Affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time.

Hepatitis B Virus (HBV) – A vaccine-preventable liver infection caused by the hepatitis B virus (HBV).

Hepatitis C Virus (HCV) – A liver infection caused by the hepatitis C virus. Hepatitis C is spread through contact with blood from an infected person.

Inactive Virus – Inactivated vaccine refers to vaccine that contains inactivated or “dead” virus.

Infection Control – Stopping the spread of infections in a senior living community.

Infection Prevention – Using a method to help prevent harm caused by infection to residents and staff.

Latent TB infection – A condition in which TB bacteria are alive, but inactive in the body. People with latent TB infection have no symptoms, don't feel sick, can't spread TB to others, and usually have a positive TB skin test or positive TB blood test reaction. But they may develop TB disease if they do not receive treatment for latent TB infection.

Material Safety Data Sheet (MSDS) – Material safety data sheets, safety data sheets, or product safety data sheets, are documents that list information relating to occupational safety and health for the use of various substances and products. MSDSs are a widely used system for cataloging information on chemicals, chemical compounds, and chemical mixtures.

Pandemic – Occurring over a wide geographic area and affecting an exceptionally high proportion of the population.

Pathogen – A bacterium, virus, or other microorganism that can cause disease.

Person-to-person transmission – Also called human-to-human transmission. This refers to the ability of an influenza (flu) virus to spread from one person to another (instead of from an animal to a person, for example). Seasonal influenza viruses spread easily from person to person, most commonly through large or small droplets containing influenza virus that are expelled when a sick person is coughing or sneezing. Most [novel influenza A viruses](#) do not spread easily.

Standard Precautions – Standard Precautions are the minimum infection prevention practices that apply to all resident services staff regardless of suspected or confirmed infection status of a resident. These practices are designed to both protect and prevent the spread of infections and include handwashing, sanitizer use, PPE, respiratory hygiene/cough etiquette, sharps safety, safe injections, biohazardous waste management, and disinfection practices.

FORMS

		Respiratory Surveillance										Date:										
		Case Demographics			Case Location		Signs & Symptoms			Diagnostics		Outcome during Outbreak										
1.	Name	Age	Gender M/F	Residents only: short (s) or Long (L) stay	Residents Only: Bldg/Floor	Residents Only: Room/Bed	Staff Only: Primary Floor Assignment/Shift	Symptom onset date: (mm/dd)	Fever (Y/N)	Cough (Y/N)	Body Ache (Y/N)	Other: Headache, Shortness of breath (SOB), Loss of Appetite (LA), Chilis, Sore Throat (ST), Other/specify:	Chest Xray (Y/N)	Type of specimen collected: NP-nasopharyngeal swab, OP-orpharyngeal swab, U-rine, S-sputum, Other/specify:	Date of collection (mm/dd)	Type of test ordered: 0-no test performed, 1-culture, 2-PCR, 3-urine, antigen, 4- Other/specify:	Pathogen Detected - Negative, Bacterial 1-S-pneumoniae, 2-Legionella, 3-Mycoplasma viral; 4-Influenxa, 5-RSV, 6-HPV, 7- Other/specify:	Symptom resolution date: (mm/dd)	Hospitalized (Y/N)	Died (Y/N)	Case (C) or Not a case (leave blank)	
2.																						
3.																						
4.																						
5.																						
6.																						
7.																						
8.																						
9.																						
10.																						

If faxing to your local Public Health Department, please complete the following information:

Community Name: _____ City, State: _____ County: _____

Contact Person: _____ Phone: _____ Email: _____

RESIDENT ROOM CLEANING/DISINFECTION TRACKING FORM

Resident Room Number	Environment Staff Name	Date	Time

Area/equipment in Resident Room to be cleaned and disinfected	Verify clean by a checkmark	If not cleaned why
Bed control, rails, assists, trapeze hold, etc.		
Tray table, nearby utility tables and their pulls		
Call box		
Telephone		
Chair and chair arms		
All light switches in the room including bathroom		
Bathroom sink/handles		
All doorknobs including bathroom on both sides		
Grab bars and handrails by toilet and in shower		
Toilet seat		
Toilet flush handle		
Bedside toilet seat		

Resident Equipment:		
wheelchair arm pads, grips, controls		
cane handle		
walker hand grabs		

SAMPLE DATA – NHSN REPORTING TEMPLATE

In July 2020, Argentum adopted a position calling for assisted living communities to voluntarily report COVID-19 data to the U.S. Centers for Disease Control and Prevention (CDC). The data would be reported using the COVID-19 Module for Long Term Care Facilities: Resident Impact and Facility Capacity, which is part of the National Healthcare Safety Network (NHSN) database administered by CDC.

As voluntary reporters, communities/companies have the option of determining which data to report, as well as how frequently to report (weekly, monthly, etc.). Following is a condensed set of data that are suggested for reporting for providers considering participation.

COVID-19 MODULE LONG TERM CARE FACILITY: RESIDENT IMPACT AND FACILITY CAPACITY

NHSN FACILITY ID:

CMS CERTIFICATION NUMBER (CCN):

FACILITY NAME:

***DATE FOR WHICH RESPONSES ARE REPORTED:** _____/_____/_____

For the following questions, report data on the same day each week at least once a week (or as appropriate). For questions requiring counts, include only new data since the last date the counts were collected for reporting in the NHSN Module.

RESIDENT IMPACT

_____ ADMISSIONS: Residents admitted or readmitted from another facility who were previously diagnosed with COVID-19 and continue to require transmission-based precautions

_____ CONFIRMED: Residents with new positive COVID-19 test results from a viral test (nucleic acid or antigen)

_____ SUSPECTED: Residents with new suspected COVID-19

_____ TOTAL DEATHS: Residents who have died for any reason in the facility or another location

_____ COVID-19 DEATHS: Residents with a suspected or positive COVID-19 test result who died in the facility or another location Facility Capacity and SARS-CoV-2

RESOURCES

[U.S. Centers for Disease Control and Prevention](#)

[Reuse and Decontamination of Respirators](#)

[Sharps Safety](#)

[Strategies for Optimizing the Supply of Face Masks](#)

[Managing Stress and Anxiety](#)

[Code of Federal regulations, Title 42: Public Health, Part 493.2 – Laboratory Requirements](#)

[CLIA Certification Application Form](#)

[How to Obtain a CLIA Certificate](#)

[CMS Reporting Requirements during COVID-19](#)

[Guidance for Cleaning and Disinfecting](#)

[CMS Targeted COVID-19 Training for Nursing Home Staff](#)

[Using Personal Protective Equipment \(PPE\)](#)

[Proper N95 Respirator Use for Respiratory Protection Preparedness](#)

[Infection Prevention Training: Nursing Homes and Assisted Living \(Long-term Care Facilities\)](#)

[CDC Infection Prevention and Control Assessment Tool](#)

[CDC Drug Resistant Tuberculosis](#)

[NIH COVID19 Treatment Guidelines](#)

[U.S. National Strategy for Combating Antibiotic-Resistant Bacteria \(National Strategy\)](#)

[OSHA Bulletin: General Respiratory Protection Guidance for Employers and Workers](#)

[OSHA PPE Respiratory Protection – Standard 29 CFR 1910.134](#)

[3M Technical Bulletin #174: Respiratory Protection for Airborne Exposures to Biohazards \(Release 5, June 2020\)](#)

[Long Term Care Respiratory Surveillance List](#)

[APIC Text of Infection Control and Epidemiology – Outbreak Investigations \(Revised April 2020\)](#)

[Infection Control – Isolation Precautions](#)

[APIC Text – Surveillance \(Revised September 2020\)](#)

[Reportable Diseases](#)

[World Health Organization \(WHO\) – Precautions in Health Care](#)



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